

IR-DUST OBSERVATIONS OF COMET TEMPEL 2 WITH CRAF VIMS

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Measurement strategies are now being planned for using the Visual and Infrared Mapping Spectrometer (VIMS) to observe the asteroid Hestia, and the nucleus, and the gas and dust in the coma of comet P/Tempel 2 as part of the Comet Rendezvous Asteroid Flyby (CRAF) mission. The spectral range of VIMS will cover wavelengths from 0.35 to 5.2 μ m, with a spectral resolution of 11 nm from 0.35 to 2.4 μ m (192 channels) and of 22 nm from 2.4 to 5.2 μ m (128 channels). The instantaneous field of view (IFOV) provided by the foreoptics is 0.5 milliradians, and the current design of the instrument provides for a scanning secondary mirror which will scan a swath of length 72 IFOVs. The CRAF high-resolution scan platform motion will permit slewing VIMS in a direction perpendicular to the swath. This enables the building of a two-dimensional image in any or all wavelength channels. Important measurements of the dust coma will include the onset of early coma activity, the mapping of gas and dust jets and correlations with active nucleus areas, observations of the dust coma from various scattering phase angles, coverage of the low-wavelength portion of the thermal radiation, and the 3.4 μ m hydrocarbon emission. A basic description of the VIMS instrument, its general role in the CRAF mission, and in particular the important planned dust coma measurements, will be presented.